

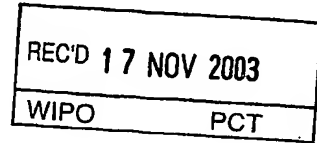
10/529158
Rec'd PPTO 24 MAR 2005

PCT/AU03/01406

(#2)



Best Available Copy



Patent Office
Canberra

I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002952214 for a patent by PETER JOHN DOMINEY as filed on 23 October 2002.



WITNESS my hand this
Tenth day of November 2003

JANENE PEISKER
TEAM LEADER EXAMINATION
SUPPORT AND SALES

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

P/00/009
Regulation 3.2

AUSTRALIA
Patents Act 1990

ORIGINAL

PROVISIONAL SPECIFICATION FOR AN INVENTION ENTITLED:

Invention Title: Paint Roller Cleaner
Name of Applicant: Peter John Dominey
Address for Service: Lesicar Perrin, 49 Wright Street, Adelaide, SA 5000

The invention is described in the following statement:

Paint Roller Cleaner

FIELD OF THE INVENTION

The paint roller cleaner of the present invention is used to clean excess paint from a paint roller after use. The cleaner of the invention is directed to both the professional and the domestic markets.

BACKGROUND OF THE INVENTION

Paint rollers are widely used as a practical means of rapidly painting any surface. The roller operated by temporarily absorbing substantial quantities of paint and releasing this under pressure in the rolling action. Depending on the type of paint to be applied, the surface to be painted and the desired finish a paint roller may be formed of a sponge material or a fleecy wool fibre. Other types of rollers are used but perhaps less commonly.

However it can be observed that in most cases once the painter has finished the roller still retains significant quantities of paint in the nap of the roller. This presents several difficulties to the operator. Firstly, paint is expensive and it is undesirable that large quantities should be wasted. There is therefore a need to retrieve as much paint as possible from the roller for later use. Secondly, if paint is allowed to dry on the roller it hardens and renders the roller useless for future use, again a significant cost to the user. There is therefore a need to clean the roller thoroughly for future use.

Cleaning paint from a roller presents its own set of difficulties to the user. Paint typically includes a dispersion of finely divided particles in solvents and pigments. Removing all traces of paint sufficient to avoid clogging the roller as described and also to avoid the risk of contaminating any future paint used on the roller has in the past required very large quantities of water and can be very messy. More importantly the disposal of solvents and paint waste into the domestic waste water system is environmentally undesirable and in some locations prohibited by legislation.

There is therefore a need for paint rollers to be able to be cleaned in a manner that minimises water usage and that confines any water or cleaning fluid for collection and separate disposal.

The present invention addresses itself to the above situation and presents an alternative to prior art paint roller cleaners.

SUMMARY OF THE INVENTION

Therefore, according to a first aspect of the present invention, although this need not be the broadest nor indeed the only aspect of the invention there is provided a paint roller cleaner including

- a housing adapted to hold a paint roller therein said housing having an opening to receive a paint roller said opening also serving to collect excess paint from the roller for re-use in a first cleaning action; and
- 10 - means for securing said roller in said housing whereby cleaning fluid under pressure is introduced into the housing under pressure to thereby effect a second cleaning action on said roller.

Preferably, the housing further includes a first position locking means for temporarily securing the roller against the housing. In one form of the invention the first position locking means takes the form of a grab button in a wall of the housing, said grab button
15 being spring biased into a released position and being movable into an engaged position under thumb pressure.

In a further form of the invention the position locking means includes a hook member designed to lock around and restrain a handle of a paint roller thereby securing the
20 roller with respect to the cleaner for use. In such a form there is no requirement to remove the handle from the device to complete the cleaning operation.

In a further form of the invention a detachable, second position locking means to secure the roller with respect to the housing is provided in the form of a cap securable over the opening of the housing and serving to create a fluid collection channel for collection of
25 used cleaning fluid.

The housing of the cleaner is for all practical purposes a cylindrical housing being a very close fit around the roller. Furthermore, the first position locking means is preferably adapted for radial action so as to be able to temporarily pin the roller against a side of the housing. In this way the roller can be maintained in position to allow

manipulation of the roller handle without the operator having to contact the surfaces wet with paint. Further, The use of the second position locking means allows the roller to be encased in the housing for cleaning purposes.

- 5 Preferably, the second position locking means forms a part of a retaining cup secured in the receiving end of the housing.

DESCRIPTION OF DRAWINGS

The above and other objects, features, and advantages of the present invention will be apparent from the following detailed description of a preferred embodiment in conjunction with the accompanying drawings. In the drawings:

- 10 Figure 1 illustrates in perspective view a paint roller cleaner in accordance with one aspect of the present invention;

Figure 2 illustrates a paint roller as it enters the cleaner of figure 1;

Figure 3 illustrates the roller in position ready to commence the cleaning process;

- 15 Figure 4 shows how a retaining cup is fitted into the cleaner housing;

Figure 5 depicts the retaining cup secured into position;

Figure 6 illustrates in cross-sectional view the arrangement of figure 5;

Figure 7 illustrates in cross-sectional view an alternative embodiment of the invention;

- 20 Figure 8 illustrates in perspective view a paint roller cleaner in accordance with a second aspect of the present invention; and

Figures 9-11 illustrate the paint roller cleaner of figure 8 in use.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Illustrated in the drawings is a paint roller cleaner 10 formed in accordance with the invention. The paint roller cleaner 10 operates to clean traditional paint rollers as used both domestically and the longer rollers used by professional painters.

5 The paint roller cleaner 10 includes a generally tubular housing 12 having a first inlet end 14 and a second outlet end 16. The open outlet end is flared to form an open funnel 16 shaped opening to the housing 12. The inlet end 14 terminates in a narrow spigot 18 that serves as a point of connection for a source of cleaning fluid such as water. A seal 20 ensures that a fluid tight connection is made even where the fluid is pressurized.

10 As will be appreciated, the many paints today are water based and hence paint rollers are mainly cleaned in water. However, there is no reason why the device of the invention could not be used with other cleaning fluids. Thus references to cleaning water in the following description can be taken to incorporate other cleaning fluids as appropriate for other paint types. Typically, therefore, the spigot 18 would be attached
15 to a hose or other mains water source. It will also be appreciated that the cleaning device of the invention uses substantially less water than prior art cleaning devices and thus it is possible for the inlet 14 to be connected to a small discrete cleaning fluid supply source.

20 Located in the housing and close to the fluid inlet 14 is a deflector 22. The deflector 22 serves to direct water entering the device 10 to the periphery of the housing 12, i.e., to the point where the cleaning action occurs. Use of the deflector 22 is optional.

In the drawings as shown in figures 6 and 7 the housing 12 holds a paint roller 24 therein. The housing 12 is longer than the paint roller 24. It can also be seen that the diameter of the housing 12 is very close to that of the paint roller 24. Thus, as the paint
25 roller 24 is inserted in to the housing, as shown in figures 1-3, any excess paint held on the roller 24 is squeezed off the roller 24. Thus, in a first cleaning action paint can be removed from the roller and collected in the outlet funnel 16. Paint collected in this way is easily collected and returned to a tin or other storage device for reuse.

30 It should be noted that this action occurs simply and without the need for the user to handle the roller 24. Thus, any contact between the user and the roller 24 is minimised, thereby reducing the opportunity for paint to spread onto the body and clothes of the user.

As the roller 24 is gradually inserted in the housing 12 the outer edge of the funnel outlet 16 encounters the roller handle 26. For the paint roller 24 to be completely immersed in the housing 12 as shown in figures 6 and 7 the roller handle 26 has to be removed. To assist in achieving this task without interaction between the user and the roller 24, which still holds considerable quantities of paint notwithstanding the first cleaning stage the device 10 is provided with a grab button 28. The grab button 28 is, in the embodiment under consideration, located at one end of an outer carrying handle 30. The grab button 28 includes an inner spring 32 and a stopper 34 that penetrates the wall of the housing 12 and pushes into the interior space of the housing 12. The spring 32 biases the grab button 28 out of the housing 12. Depressing the grab button 28, typically with a thumb, against the action of the spring 32 forces the stopper into the interior of the housing and, as shown in figure 3 against the paint roller 24. The roller 24 is thus secured whilst the roller handle 26 can now be removed, again with minimal paint contact arising.

The roller is now completely immersed in the housing 12 and the outlet funnel 16 can be sealed with a positioning cap 36. The cap 36 as shown in figures 5 and 6 is attached to the outlet funnel 16 by means of a screw thread. Other attachment mechanisms are also possible without departing from the scope and spirit of the invention. The positioning cap 36 also acts, as the name suggests, as a means of securing the position of the roller 24 with respect to the housing 12. In alternative forms of the invention a positioning cap is retained in the sleeve of the roller and secured under retaining lips on outer ends of the funnel 16.

The positioning cap 36 includes on its outer surface a retaining plug 38. The retaining plug 38 is slightly tapered so as to be able to gently wedge in position in the sleeve of the roller 24. Thus, from within the positioning cap 36 the roller 24 is urged completely into the body of the housing 12.

The retaining plug 38 includes a central spindle 40 that passes through the wall of the cap 36 and terminates in a threaded end. A securing cap nut 42 fits on to the spindle 40 and by tightening the thread compressing a resilient rubber washer 41 against the wall of the housing. In this position the positioning cap 36 is secured to the housing by means of a threaded connection.

The positioning cap 36 conforms in shape closely to the outlet funnel 16 and this follows the contoured thereof. However, an examination of figure 6 reveals that a

narrow gap is maintained between the cap 36 and the outlet funnel 16 and that the two do not contact one another, this narrow gap forms an outlet channel 44. The outlet channel 44 is in fluid communication with the interior of the housing 12. The outlet channel 44 is also in fluid communication with a series of circumferential drain apertures 46 that extends around an outer edge of the positioning cap 36. It is therefore possible for fluid to travel from the inlet 14, through the body of the housing 12 and around a paint roller 24 in the housing 12 into the outlet channel 44 and out of the drain apertures 46. It is also possible that cleaning water can accumulate within the housing 12. This occurs particularly in those rollers not having end caps and where the interior of the roller is accessible. In order to ensure that the interior of any roller is thoroughly cleaned and does not collect or hold either paint or cleaning liquid which could create difficulties for the user on opening the unit 10, a fine central aperture 48 extends through the central spindle 40 and the securing cap nut 42. The aperture 48 allows a small flow of liquid therethrough thereby cleaning the inside surface of the roller 48. The aperture 48 is approximately 1mm in diameter.

In a second cleaning stage, therefore, a roller 24 is ensconced in the body of the housing 12 is closed off by the positioning cap 36. Cleaning water is introduced into the device 10 through the inlet spigot 18 and under pressure forces out any paint entrained on the nap of the roller 24. Wastewater is collected in the outlet channel 44 and emerges through the drain apertures 46. It is evident that there is very little free space within the housing 12 when it is occupied by the roller 24. Accordingly, the fluid in the housing 12 is subject to pressure and penetrates the nap of the roller 24 releasing the paint without needing large volumes of the fluid.

The roller 24 within the housing 12 can be rotated by rotation of the securing cap nut 42. The rotation process allows the fibres of the roller to be gently moved to ensure that all entrained paint is removed.

The device 10 is in operation closed and by observing the water emerging from the drain apertures 46 it is possible to determine when the paint has been cleaned from the roller.

Figure 7 illustrates an embodiment of the invention an alternative to the positioning cap 36. In this case a positioning cap 50 is secured to the outer funnel 16 by a snap fit. Further the positioning cap 50 lodges the roller in position by means of an eccentric cam 52. As the cam lever 54 is rotated the spindle 40 is pulled outwardly thereby

causing axial compression of the rubber washer 41 that locks the washer against the inner surface of the roller sleeve.

Figures 8-11 illustrate a further form of the invention in the form of a paint roller cleaner 100.

- 5 The paint roller cleaner 100 includes a generally tubular housing 112 having a first inlet end 114 and a second outlet end 116. The open outlet end 116 has an outer flange portion 115 around the open end. The inlet end 114 terminates in a narrow spigot 118 that serves as a point of connection for a source of cleaning fluid such as water. A seal 120 ensures that a fluid tight connection is made even where the fluid is
- 10 pressurized.

- In the drawings housing 112 holds a paint roller 24 therein. The diameter of the housing 112 is very close to that of the paint roller 24. Thus, as the paint roller 24 is inserted in to the housing 112, as shown in figures 9-11, any excess paint held on the roller 24 is squeezed off the roller 24. Thus, in a first cleaning action paint can be removed from
- 15 the roller and collected by the outlet flange 115. Paint collected in this way is easily collected and returned to a tin or other storage device for reuse.

- It should be noted that this action occurs simply and without the need for the user to handle the roller 24. Thus, any contact between the user and the roller 24 is minimised, thereby reducing the opportunity for paint to spread onto the body and
- 20 clothes of the user.

- The outlet flange 115 includes therein a hook portion 122. As the roller 24 is gradually inserted in the housing 112 the outlet flange 115 and hook 122 encounters the roller handle 26. By rotating the handle 26 it is possible to secure the handle 26 in the hook 122 such that the roller 24 is retained in the housing 112 and is restrained from further
- 25 movement relative to the housing 112. Importantly, it can be seen that the roller positioning of the roller 24 in the device 100 does not require that the operator comes into contact with the surface of the roller 24 and only the handle 26 of the roller needs to be contacted.

- In a second cleaning stage, therefore, a roller 24 is ensconced in the body of the housing 122 and is retained by the hook 28. The close fit between the interior surface of the housing 112 and the roller 24 further assures the position of the roller. Cleaning
- 30

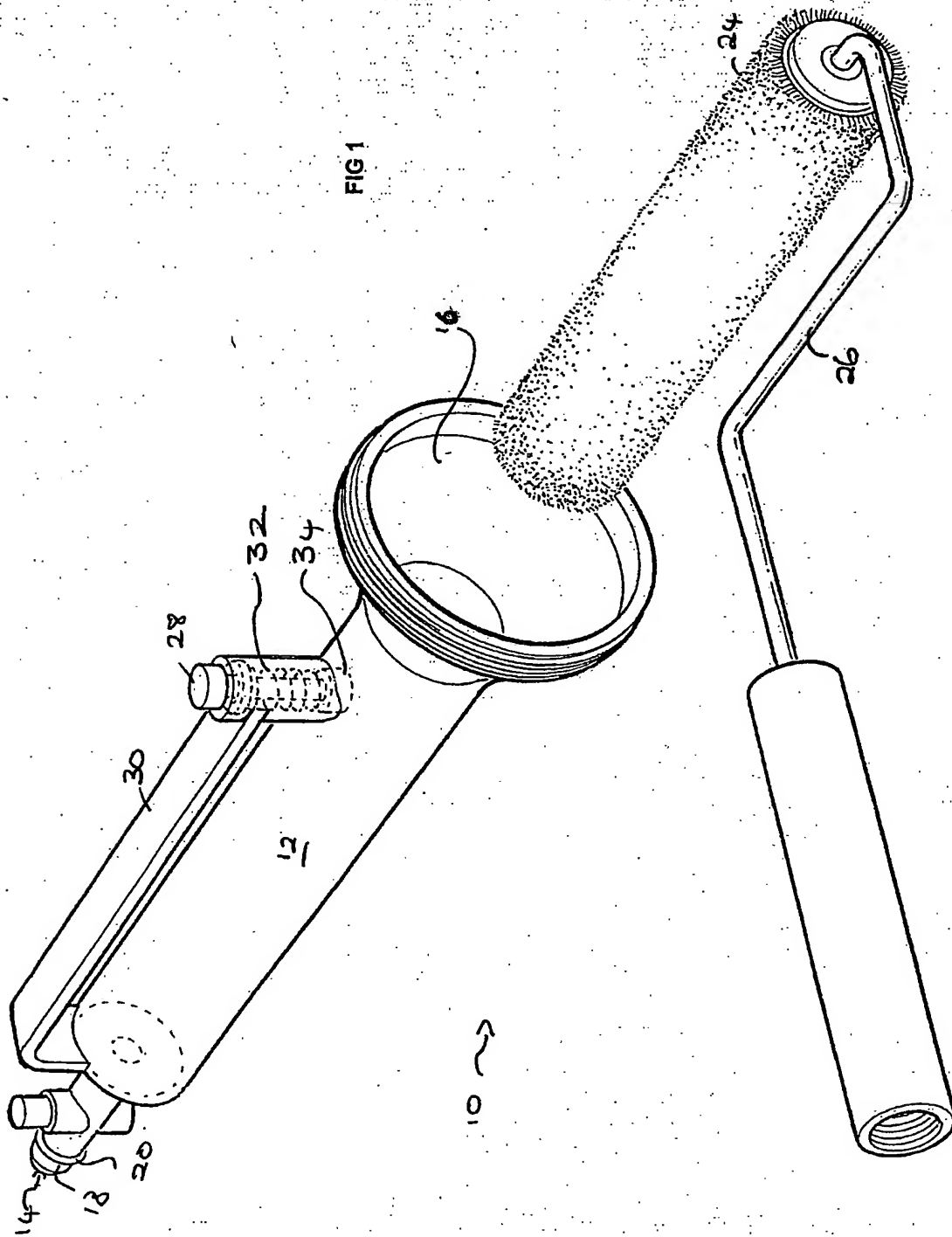
water is introduced into the device 100 through the inlet spigot 118 and under pressure forces out any paint entrained on the nap of the roller 24. It is evident that there is very little free space within the housing 112 when it is occupied by the roller 24.

- 5 Accordingly, the fluid in the housing 112 is subject to pressure and penetrates the nap of the roller 24 releasing the paint without needing large volumes of the fluid.

To further ensure complete removal of paint from the roller the roller 24 can be released from engagement with the hook 122 and then rotated in the housing 112. The rotation process allows the fibres of the roller to be gently moved to ensure that all entrained paint is removed.

- 10 The invention has been described by way of example. The examples are not, however, to be taken as limiting the scope of the invention in any way. Modifications and variations of the invention such as would be apparent to a skilled addressee are deemed to be within the scope of the invention.

- 15 Dated: 23/10/02
Peter John Dominey
By his Patent Attorneys
LÉSICAR PERRIN



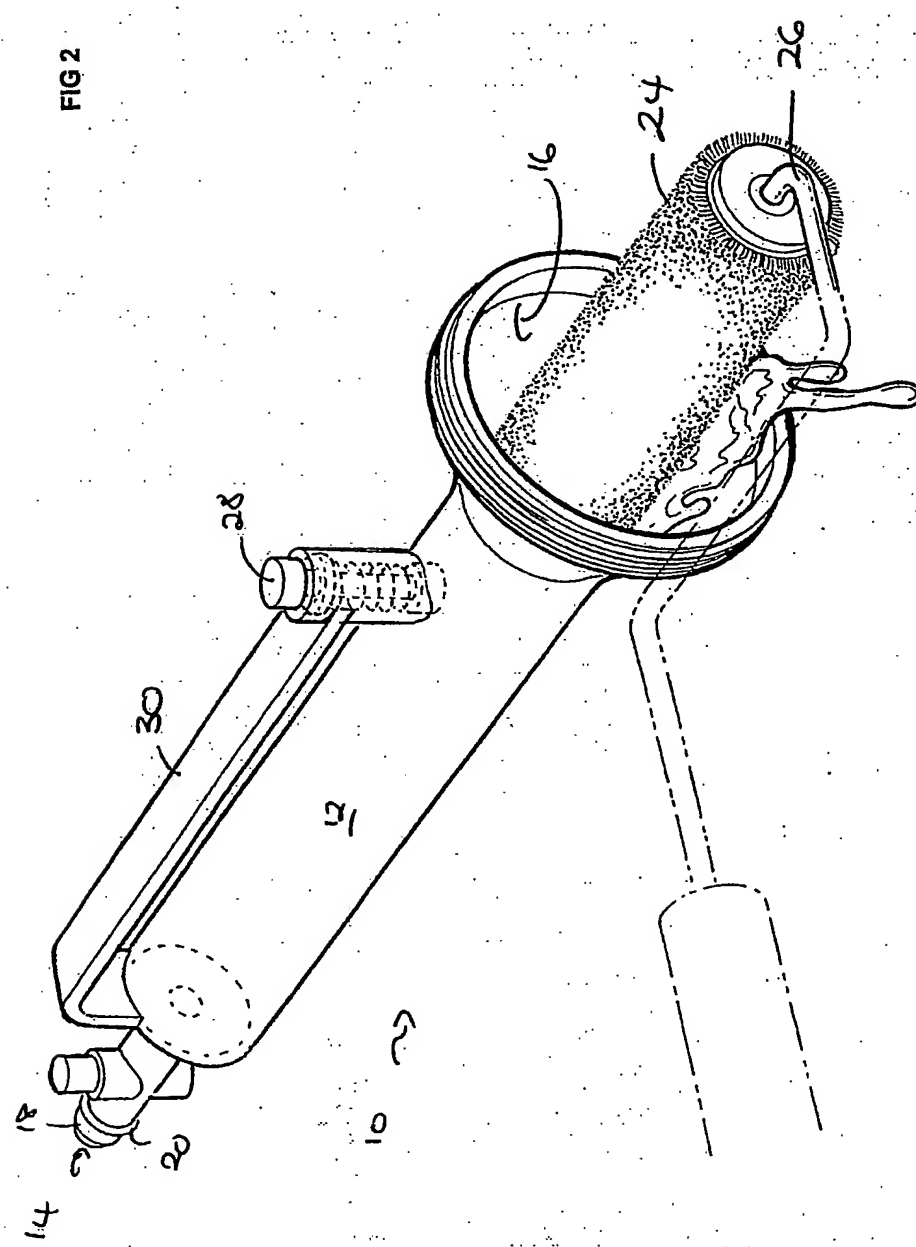
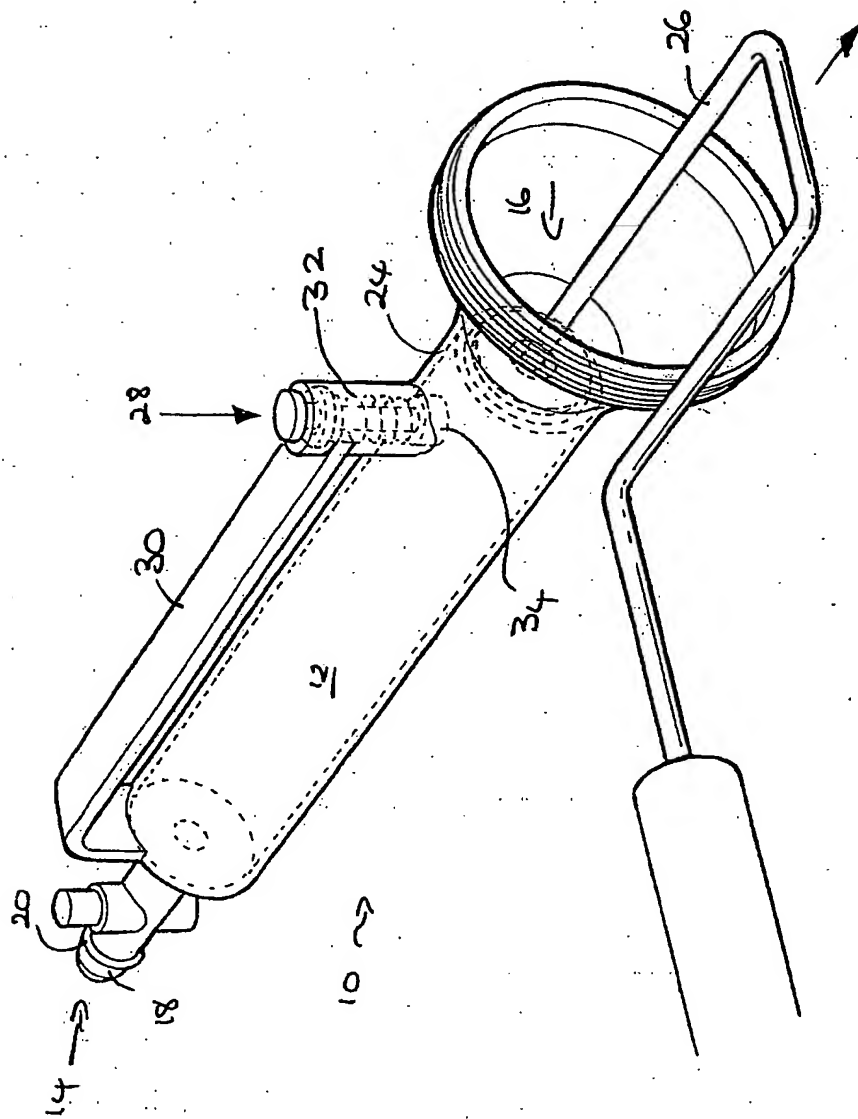
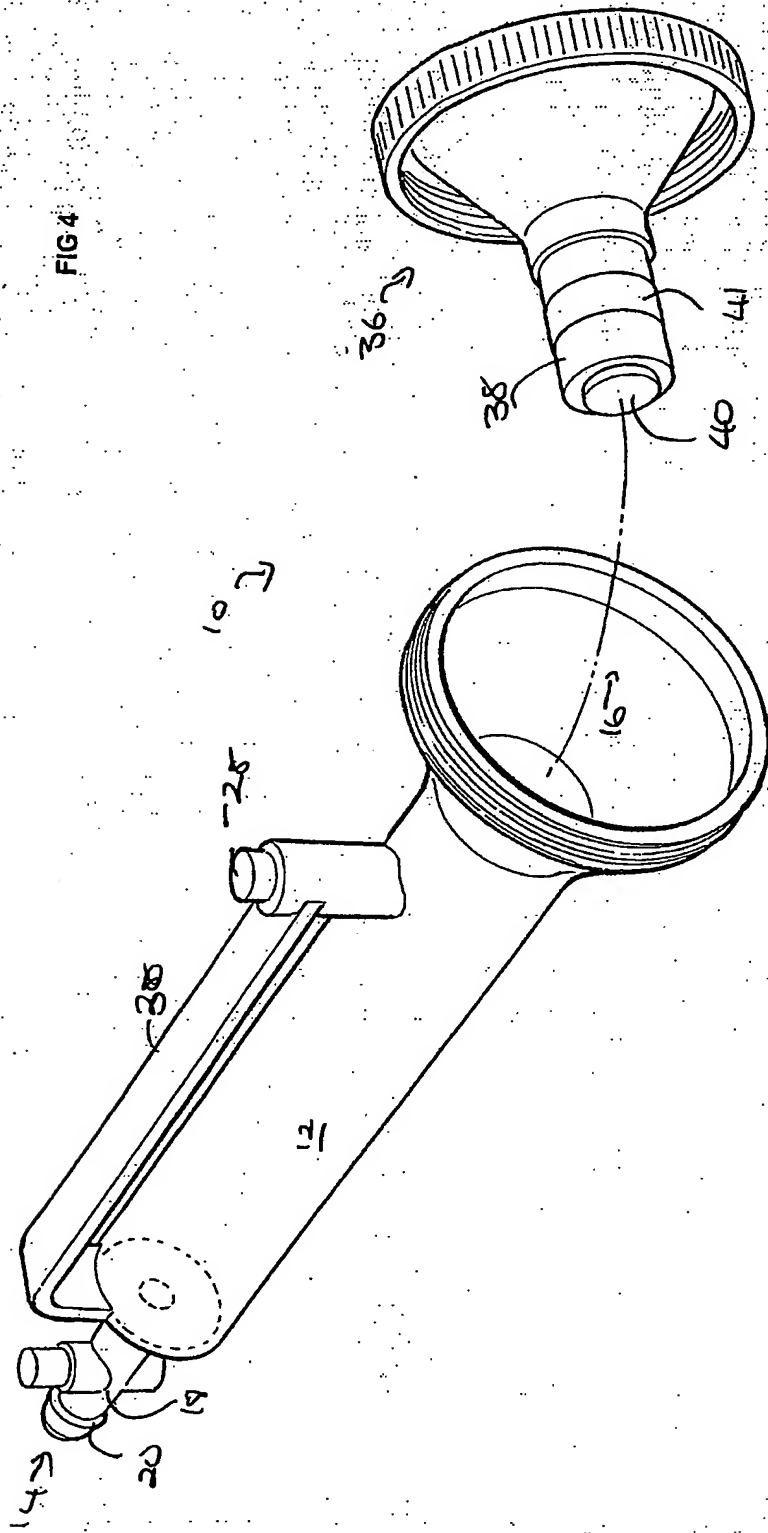


FIG 3





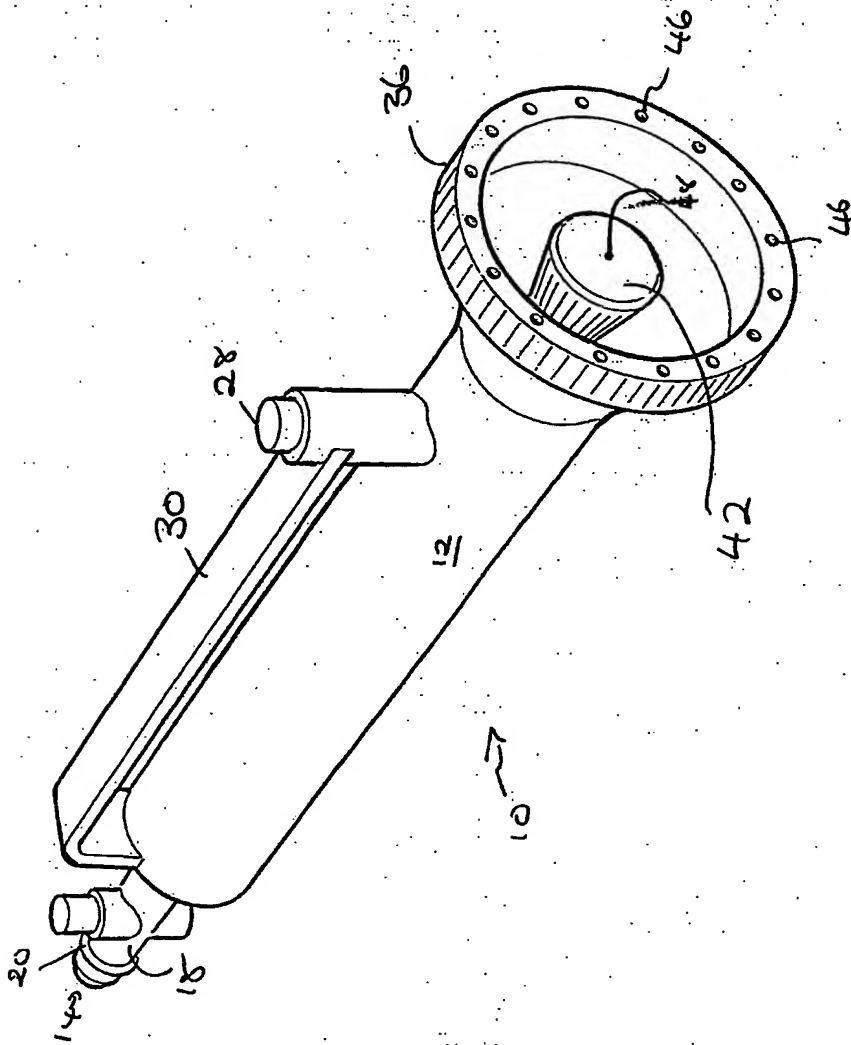
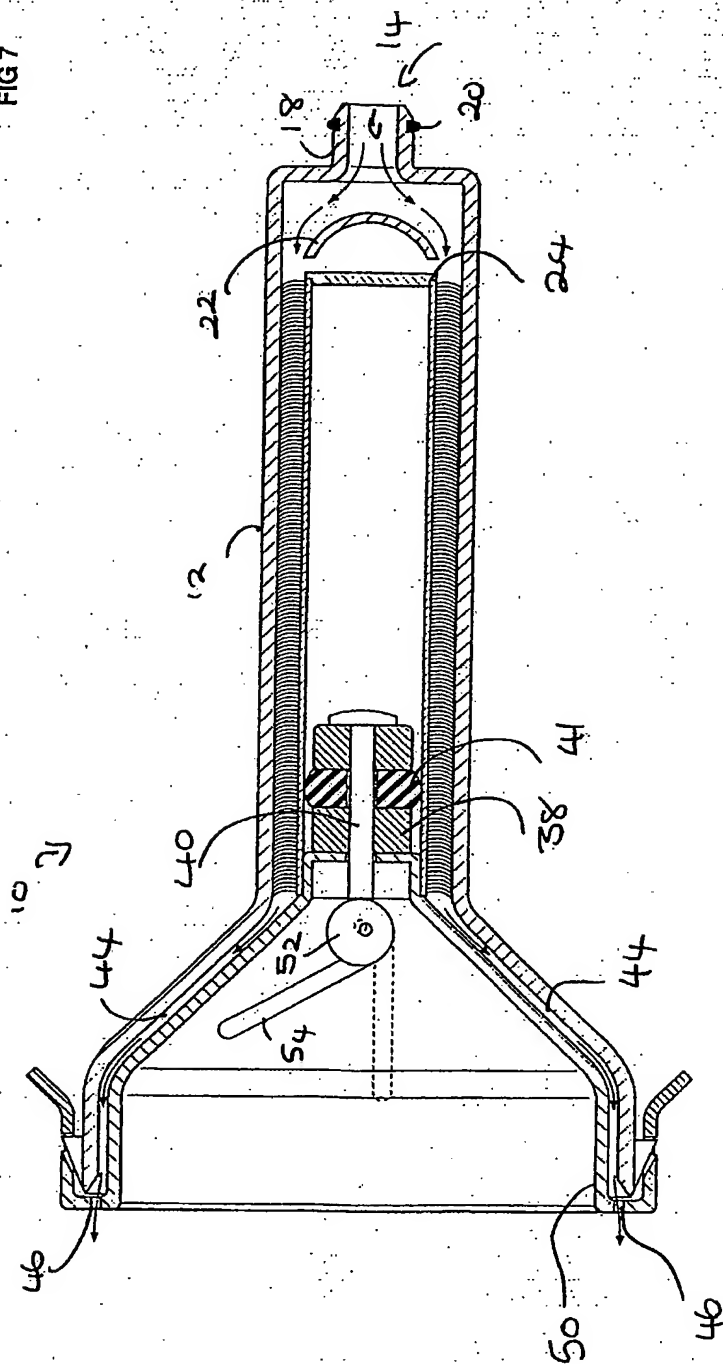


FIG 5

FIG 7



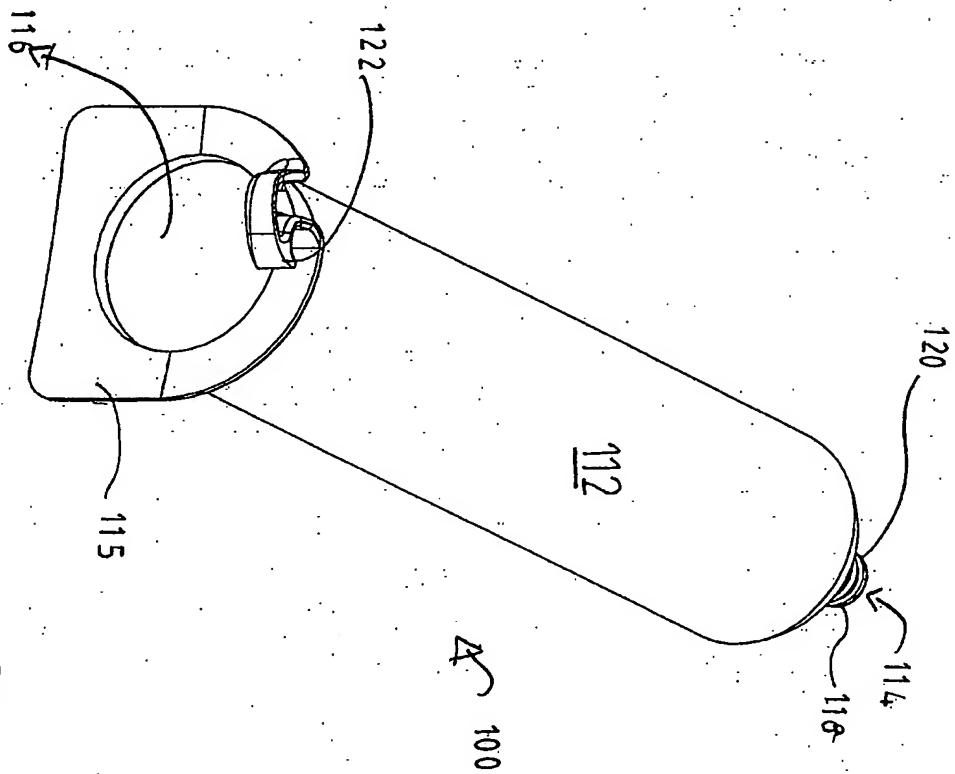


FIG 8

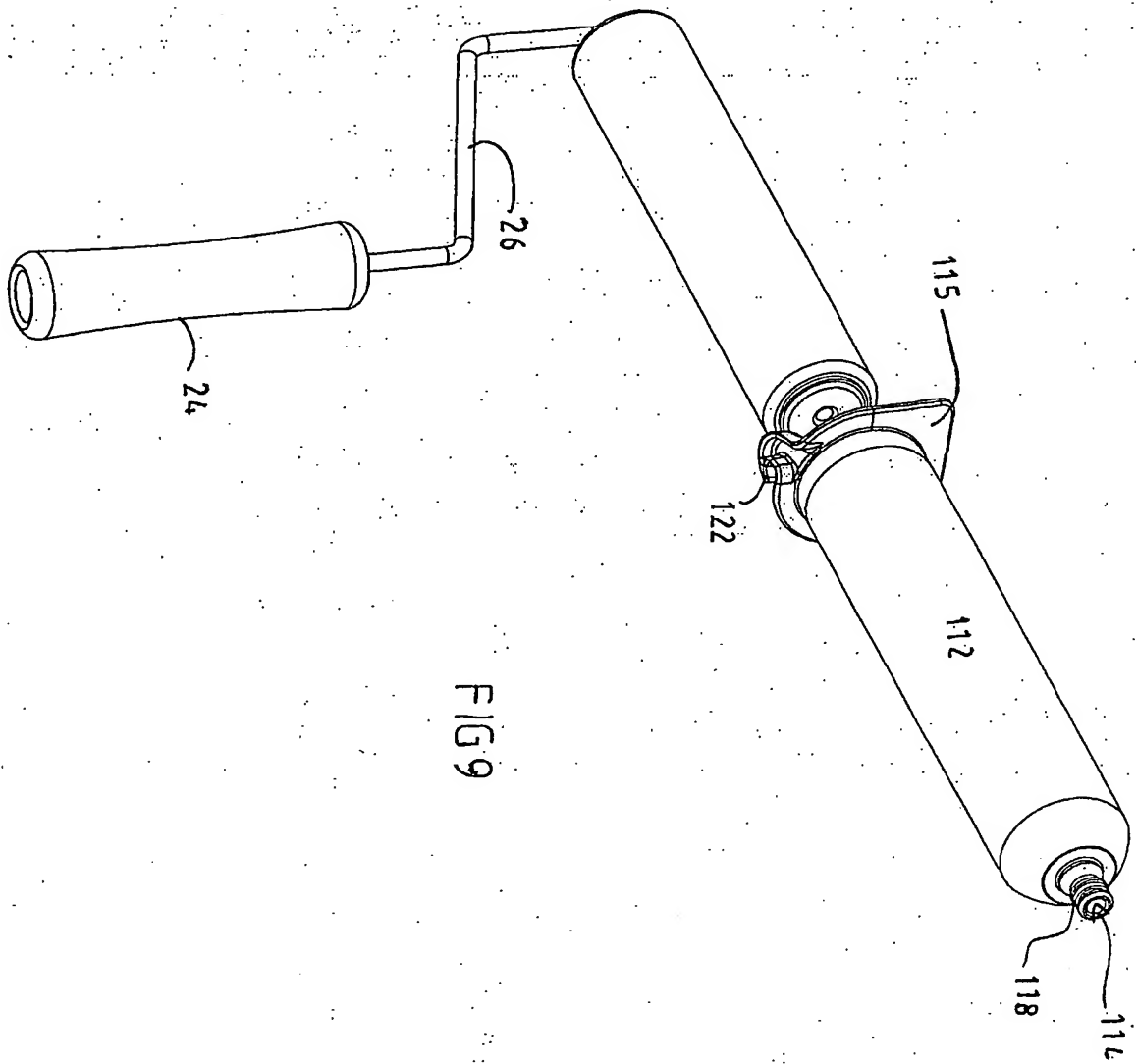


FIG. 9

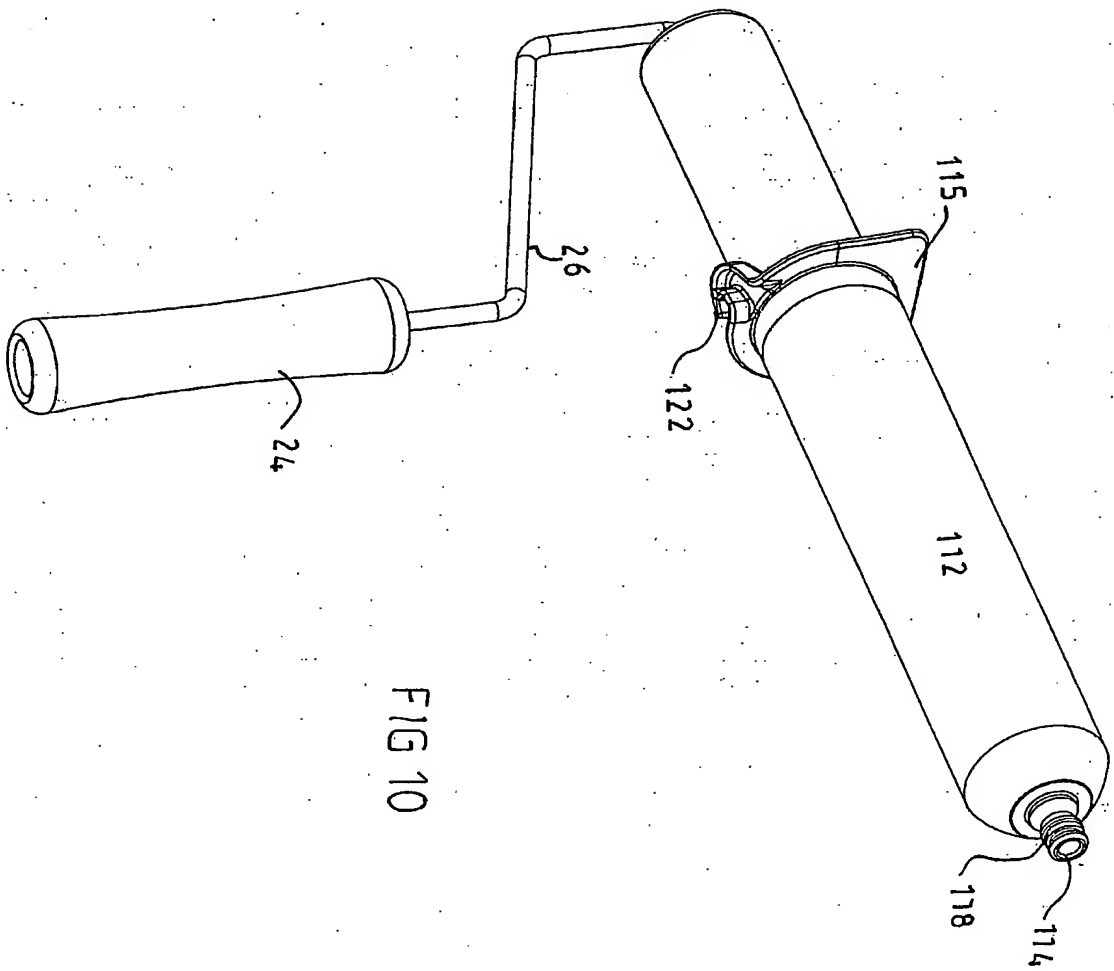


FIG 10

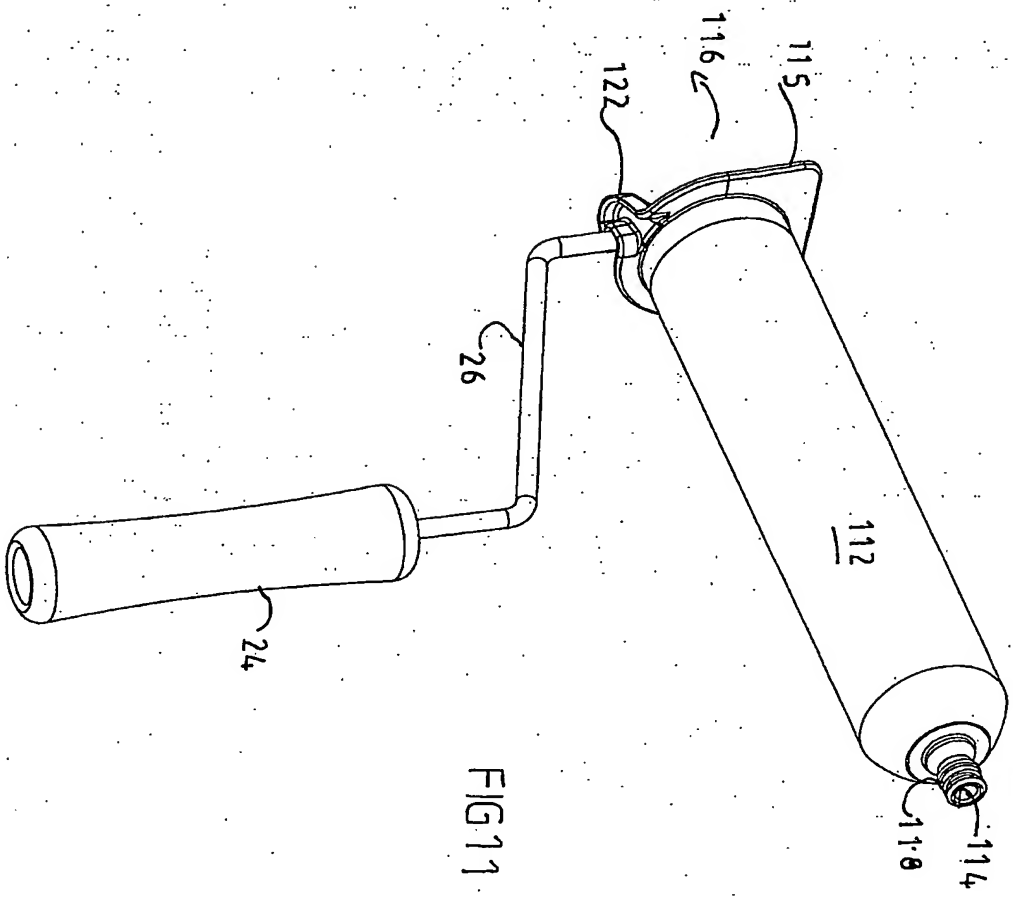


FIG 11

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☒ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.